# ACOUSTICAL ANALYSIS REPORT

**Oak Rose Tentative Map No. 5204 RPL5**
**San Diego County Log No. 00-08-012**
**Mt. Israel Road & Detwiler Road**
**County of San Diego, California**


**Owner**
Ray Saatjian
10086 Paseo Montril, Unit #1109
San Diego, California 92129
(858) 583-7991

**Prepared For**
The MacKenzie Group
Attention: Jo MacKenzie
1578 Palomar Drive
San Marcos, California 92069
(760) 743-7969
Fax (760) 743-0143

**Prepared By**
Eilar Associates
Acoustical & Environmental Consulting
539 Encinitas Boulevard, Suite 206
Encinitas, California 92024
(760) 753-1865
Fax (760) 753-2597


**Job # A50630N1**

**April 28, 2006**

# TABLE OF CONTENTS

# 1.0 EXECUTIVE SUMMARY

The proposed Oak Rose subdivision, TM 5204 RPL5, is located in the County of San Diego, adjacent to and west of the intersection of Mt. Israel Road and Detwiler Road, west of Del Dios Highway. The project proposes the subdivision of a single parcel into seven residential lots for the development of single-family detached homes.

The primary future noise source in the vicinity of the project site will be from automobile and truck traffic traveling on Mt. Israel Road. Detwiler Road in the future is expected to remain as a narrow, dead-end private residential access road, and will not contribute to the future traffic noise impacts on the site.

The eastern property lines of Lots 2 and 7 lie adjacent to Mt. Israel Road and are considered to be the most noise-sensitive lots for future traffic noise impacts, resulting in noise levels greater than 60 decibels (dBA), Community Noise Equivalent Level (CNEL). Lots 2 and 3 lie to the south of the intersection of Mt. Israel Road and Detwiler Road. Lot 4 lies southwest of the intersection of Mt. Israel Road and Detwiler Road. Lots 5 and 6 are located northwest of the roadway intersection and away from Mt. Israel Road. Lots 4, 5, and 6 show a minimum property line proximity set-back distance of approximately 300 feet from the Mt. Israel Road centerline.

Mt. Israel Road is classified within the County of San Diego Circulation Element as a Light Collector. To best determine the future traffic noise impacts to Lots 2 and 7, three separate Level of Service (LOS) traffic volume scenarios are presented within this analysis. The three LOS scenarios, LOS A, LOS B, and LOS C, modeled for Mt. Israel Road incorporate their respective maximum Average Daily Trip (ADT) vehicle volume, as referenced within the Summary of County of San Diego Public Road Standards. This approach allows for a complete future traffic noise impact analysis, revealing future traffic noise contours to determine mitigation measures necessary to meet the noise code requirements of the County of San Diego.

Calculating the three future Mt. Israel Road traffic model schemes shows that the future noise levels at the eastern property lines of Lot 2 and Lot 7 will range from approximately 63 to 70 CNEL. The future traffic noise level is calculated to be approximately 55 CNEL at the center of the proposed property, and approximately 50 CNEL or less at the distant west end of the property, farthest away from Mt. Israel Road.

Without mitigation and/or planned intervening structures, future traffic noise levels to impact the proposed residential “pads” on Lot 2 and Lot 7, as shown on the replacement tentative map RPL5, will not exceed 60 CNEL, the allowable County of San Diego limit for outdoor use areas in new residential properties. The revised design for the replacement tentative map demonstrates improved Lot 2 and Lot 7 setback “pad” distances from Mt. Israel Road, thus, improving the overall future traffic noise reduction. Calculations show that the proposed residential “pads” on Lot 2 and Lot 7, closest to Mt. Israel Road, will <u>not</u> exceed the 60 CNEL outdoor use noise limit. The overall allocated “pad” sizes for Lot 2 and Lot 7 are considered large enough to develop a custom single family residence with an adequate outdoor use area. Therefore, ample traffic noise shielding to the backyard areas from a future residential structure on “pads” 2 and 7 can be designed to meet the County of San Diego’s residential outdoor use noise limit requirement of 60 CNEL.

Due to the minimal future exterior traffic noise impacts at all seven residential pads proposed for development within the project subdivision, an exterior-to-interior noise analysis for any future residential building plans, demonstrating compliance with the 45 CNEL interior noise code regulation, will not be necessary and, therefore, is not required as a result of this acoustical study.

# 2.0 INTRODUCTION

This report is submitted in response to requirements of the County of San Diego. It addresses the impact of current and future noise sources on the subject property from adjacent and nearby roadway traffic in order to demonstrate that noise levels in outdoor use areas (backyards) can be mitigated to less than 60 CNEL.

The County of San Diego also requires an acoustical analysis of building plans prior to approval, when exterior noise levels are expected to exceed 60 CNEL at any residential unit; this analysis is not provided within this report since there are no building plans available at this time.

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol $L_{EQ}$, for a specified duration. The Community Noise Equivalent Level (CNEL) is a 24-hour average, where sound levels during evening hours of 7 p.m. to 10 p.m. have an added 5 dB weighting, and sound levels during night-time hours of 10 p.m. to 7 a.m. have an added 10 dB weighting. This is similar to the Day-Night sound level, $L_{DN}$, which is a 24-hour average with 10 dB added weighting on the same night-time hours but no added weighting on the evening hours. These metrics are used to express noise levels for both measurement and municipal regulations, for land use guidelines and enforcement of noise ordinances. Some of the data may be presented as octave-band filtered sound levels. Further explanations can be provided upon request.

## 2.1 Project Location

The proposed 7-lot revised tentative map residential subdivision is located west of Del Dios Highway, adjacent to and west of the intersection of Mt. Israel Road and Detwiler Road, in the County of San Diego. It consists of Assessor's Parcel Number 264-130-63. The project is also known as "Oak Rose Ranch." The overall dimensions of the project site are irregular; it's area is 39.69 acres. The project location is shown on the Thomas Guide Map, attached as Figure 1. The Assessor's Parcel Map, Satellite Aerial Photograph and Topographic Map are also provided as Figures 2, 3, and 4.

## 2.2 Project Description

The proposed project is the creation of seven (7) new residential lots for the development of single family detached residences. The current replacement tentative map shows a minimum individual lot size of two acres for each proposed lot. Off street parking is to be provided for all lots within the scope of this project. Existing and proposed zoning for this project is Estate Residential (A-70) for lots 2, 3, 4, 5, 6, 7 and Multiple Rural Use (R-R-.25) for Lot 1. The surrounding and neighboring land use in the area consists entirely of residential developments. For further site plan review, please refer to Figure 5: Replacement TM 5204 RPL5.

# 3.0 ENVIRONMENTAL SETTING

## 3.1 Current Noise Environment

The primary noise source to impact the project site is roadway traffic from Mt. Israel Road, adjacent to the subject property on the east.

Mt. Israel Road, just west of Del Dios Highway, is currently constructed as a two-lane, two-way undivided road with several curves and steep grades. In the vicinity of the proposed project, Mt. Israel Road is a rural two-lane, two-way street traveling north and south, without curbs, gutters or sidewalks. The average right-of-way width is 60 feet, including a pavement width of approximately 30 feet. The grade for Mt. Israel Road in this area is approximately two percent. The minimum design speed in the County of San Diego for a Circulation Element roadway with a Light Collector classification is 45 mph; this speed is used within the noise model analysis. For more information, please refer to Appendix A: Sound 32 - Roadway Noise Contour Calculations.

Detwiler Road, in the vicinity of the project, is a narrow, dead-end road designed for private residential access only. It is currently developed with a pavement width of 17 feet, with no painted centerline. The right-of-way width is 40 feet.

The current traffic volume for Mt. Israel Road is 414 Average Daily Trips (ADT). This traffic volume is attributed to existing residential properties surrounding the project area, absent the proposed project site development. Obtained from an independent traffic study conducted by Darnell & Associates, Inc. for the Mt. Israel Road Subdivision project, this traffic study addresses current and future vehicle traffic volumes for various roadways surrounding the proposed project, of which Mt. Israel Road is centrally discussed.

## 3.2 Ambient Noise Level Measurement

A site visit was conducted on Thursday, September 28, 2000 at the morning hour of 8:30 a.m. A traffic noise measurement was attempted; however, during the course of the hour long site visit, no vehicle traffic was witnessed on Mt. Israel Road. Therefore, calibration of the Sound 32 traffic model is not feasible, and only future projected vehicle ADT will be used to determine overall traffic noise impacts for this proposed residential development.

An additional field noise measurement was taken at the proposed site during the day on Tuesday, September 18, 2001. The sound level meter was placed on Lot 7, the northwest corner of the intersection of Mt. Israel Road and Detwiler Road. A "one-hour" equivalent measurement was made at this location on the subject property, facing Mt. Israel Road. This location was approximately two feet below the finished grade of Mt. Israel Road, and the microphone position was approximately five feet above the current grade level of Lot 7. After about 15 minutes, there was no change in the ambient $L_{EQ}$ measurement and the result was then recorded. Please refer to Table 1 for complete information regarding the on-site ambient noise measurement.

| Table 1. On-Site Ambient Noise Measurement | |
|---|---|
| Date | Tuesday, September 18, 2001 |
| Time | 1:45 p.m. - 2:45 p.m. |
| Conditions | Temperature in High 70's, Low Humidity, Clear Skies, West Wind at 5 mph |
| Measured Noise Level | 50.1 dB(A) $L_{EQ}$ |

Site observations made during the ambient noise measurement revealed that the overall project topography is bowl shaped, surrounded mostly by chaparral slopes and rocky hills. The site is noise sensitive with sound carrying and reverberating off the terrain. The ambient noise environment was dominated mostly from a breeze blowing through the trees, the chirping of birds, and the rare occasional car on Mt. Israel Road and Detwiler Road.

Lots 2 through 7 are located in the valley west of Mt. Israel Road, of which Lot 1 is located at an elevation of 1200 feet MSL on the north facing slope just south of the Rancho Cielo Specific Plan. Detwiler Road traverses the site east to west with Lots 5, 6, and 7 on the north side and Lots 2, 3, and 4 on the south side.

Detwiler Road serves only seven developed lots to the west of the project site and can not be connected to the Rancho Cielo Specific Plan because of intervening parcels, topography, and Rancho Cielo Tentative Map conditions.

## 3.3 Del Dios Highway

The straight horizontal distance from the center of the proposed project to Del Dios Highway is approximately 1.25 miles. The project site lies up, over, and well beyond a ridge and sits in a topographic depression. During the one-hour ambient noise measurement, there was no evidence of the existence of traffic noise generated from Del Dios Highway. No audible traffic sounds reaching the project site during the site visit were observed from Del Dios Highway, as well. The only possible location on the project site where Del Dios Highway might be visible would be from the southeastern edge of the subject property. This section of the property is proposed as an Open Space Easement, where no development will occur. It is concluded that the present noise environment on-site is not influenced by traffic noise generated on Del Dios Highway. For a topographic cross-section review, please refer to Figures 8 and 9: Project Site to Del Dios Highway, Topographic Cross- Sections #1 and #2, located at the end of this report.

## 3.4 Potential Construction Impacts

The Biological Report prepared by Mooney & Associates in February 2006 does not identify the presence or the potential existence on-site for the Least Bell's vireo (Vireo bellii pusillus) or the California gnatcatcher (Polioptila californica) because the habitat on-site is not suitable. For a summary of findings review of the biological study, please refer to Appendix B: Sensitive Species Observed and Potentially Occurring at the Oak Rose Site.

## 3.5 Future Noise Environment

In the vicinity of the project site, the projected future 2020 Mt. Israel Road traffic volume scenario for a Light Collector with LOS A is 1,900 ADT. The future Mt. Israel Road daily traffic volume projection for LOS B is 4,100 ADT; for LOS C the ADT is 7,100. The projected future LOS has not been finalized by the County of San Diego for this roadway segment.

These three future LOS traffic figures and associated roadway traffic volume scenarios are the result of a conversation with John Bennett, Environmental Management Specialist with the County of San Diego, Department of Planning and Land Use, who indicated that the future traffic volume for Mt. Israel Road lies within a range of LOS A, B and C. For purposes of this analysis, all three traffic volume scenarios are modeled to make available the proper environmental setting given future traffic sound level impacts from Mt. Israel Road on the proposed subdivision.

Truck percentages for the segment of Mt. Israel Road are not available. However, based on experience, estimates provided by County of San Diego traffic engineers for similar roads, and on-site observations, a mix of 2.0 percent medium trucks and 1.0 percent heavy trucks was used for Mt. Israel Road and should provide for a worst case future traffic noise impact analysis for the purpose of this report.

According to the independent traffic study conducted by Darnell & Associates for the Mt. Israel Road Subdivision project, dated November 3, 2000, the following future conditions were documented for Mt. Israel Road. “Mt. Israel Road is estimated to carry 966 average daily trips in the Year 2020 with the addition of project traffic. This volume is 64.4 percent of the recommended capacity of the residential road. Mt. Israel Road, however, has an ultimate classification of a Light Collector. As a Light Collector, Mt. Israel Road will operate at LOS A in the future Year 2020 with or without the proposed project.”

Refer to the Sound 32 - Roadway Noise Contour Calculations and Table 2, which provides for receiver locations and traffic noise impact results at varying distances from the Mt. Israel Road centerline. The sound levels correspond to receiver locations placed in a consecutive manner on the replacement tentative subdivision map RPL5. Overall traffic noise contours are shown on Figure 6, with the corresponding three LOS traffic 60 CNEL contour scenarios plotted on Figure 7

**Table 2: Mt. Israel Road Future Traffic CNEL Contour Results**

| Receiver Location | Distance From Mt. Israel Road $C_L$ | Noise Level (LOS A) | Noise Level (LOS B) | Noise Level (LOS C) |
|---|---|---|---|---|
| R-1 | 30 Feet | 63.5 CNEL | 66.2 CNEL | 68.8 CNEL |
| R-2 | 40 Feet | 61.8 CNEL | 64.5 CNEL | 67.1 CNEL |
| R-3 | 180 Feet | 54.4 CNEL | 57.1 CNEL | 59.7 CNEL |
| R-4 | 30 Feet | 64.8 CNEL | 67.5 CNEL | 70.1 CNEL |
| R-5 | 40 Feet | 62.4 CNEL | 65.1 CNEL | 67.7 CNEL |
| R-6 | 120 Feet | 56.8 CNEL | 59.5 CNEL | 62.1 CNEL |
| R-7 | 30 Feet | 62.9 CNEL | 65.6 CNEL | 68.2 CNEL |
| R-8 | 40 Feet | 61.3 CNEL | 64.0 CNEL | 66.6 CNEL |
| R-9 | 230 Feet | 52.7 CNEL | 55.5 CNEL | 58.0 CNEL |

The proposed revised replacement tentative map shows the nearest distance to the pads from the centerline of Mt. Israel Road to be more than 248 feet to pad 2 and 111 feet to pad 7, both of which are well outside the noise easement requirement of 90 feet for the development of a single family home. It is expected that no outdoor activities will take place except on the proposed pads of Lots 2 and 7, due to the designated oak preservation easements surrounding these two pads. Furthermore, future custom residences proposed for development on pads 2 and 7 will be sited so that the homes will act as a noise shield from Mt. Israel Road traffic, protecting the outdoor use areas (backyards) planned for these lots.

# 4.0 METHODOLOGY

## 4.1 Roadway Noise Calculation

The Sound32 Release 1.41 program promulgated by California Department of Transportation, Division of New Technology, Materials and Research was used to calculate the future daytime average hourly noise level, HNL, at various locations at the project site. The daytime average hourly traffic volume is calculated as 0.058 times the ADT, based on the studies made by Wyle Laboratories (see Reference). The HNL is equivalent to the $L_{EQ}$, and both are converted to the CNEL by adding 2.0 decibels, as shown in the Wyle Study. Future CNEL is calculated for desired receptor locations using future road alignment, elevations, lane configurations, projected traffic volumes, estimated truck mixes, and vehicle speeds. Noise attenuation methods may be analyzed, tested and planned with Sound32 as required.

# 5.0 IMPACTS

## 5.1 Exterior

Due to the topography and elevation differences between Mt. Israel Road and the proposed 7 lot residential subdivision, sound attenuation with distance is more rapid than usual. Calculating the three future LOS traffic model schemes for Mt. Israel Road shows that the future noise levels to impact the project site will range from approximately 63 to 70 CNEL at the eastern property lines of Lots 2 and 7, located adjacent to and approximately 30 feet from the Mt. Israel Road centerline.

At the center of the project site, the future traffic noise level is calculated to be approximately 55 CNEL, and approximately 50 CNEL or less at the distant west end of the property, farthest away from Mt. Israel Road. Therefore, due to pad location and distance setback from Mt. Israel Road, it is concluded that future LOS A, B and C traffic noise levels will be less than 60 CNEL on pads 2, 3, 4, 5, 6, and 7 of the revised RPL5 replacement tentative map. For further review, please refer to Figures 6 and 7.

## 5.2 Interior

The County of San Diego and the State of California require residential buildings to be designed in order to attenuate, control, and maintain interior noise levels to below 45 CNEL in habitable residential space. Current exterior building construction is generally expected to achieve at least 15 decibels of exterior-to-interior noise attenuation, with windows opened. Due to improved setback pad distances from Mt. Israel Road, revised calculations show that the future exterior traffic noise levels will <u>not</u> exceed 60 CNEL on any of the residential pads proposed for project site development, especially on pads 2 and 7 (as evaluated for the three LOS A, B and C scenarios).

# 6.0 MITIGATION

## 6.1 Exterior

Without mitigation and/or planned intervening structures, future traffic noise levels to impact the proposed residential pads on Lot 2 and Lot 7, as shown on the replacement tentative map RPL5, will not exceed 60 CNEL, the allowable County of San Diego limit for outdoor use areas of new residential properties. The revised design for the replacement tentative map demonstrates improved Lot 2 and Lot 7 setback pad distances from Mt. Israel Road, thus, improving the overall future traffic noise reduction. Calculations show that the proposed residential pads on Lot 2 and Lot 7, closest to Mt. Israel Road, will not exceed the 60 CNEL outdoor use noise limit. The overall allocated pad sizes for Lot 2 and Lot 7 are considered large enough to develop a custom single family residence with an adequate outdoor use area. Therefore, ample traffic noise shielding to the backyard areas from a future residential structure on pads 2 and 7 can be designed to meet the County of San Diego's residential outdoor use noise limit requirement of 60 CNEL.

Mitigation is not required on the remaining five residential lots (1, 3, 4, 5 and 6) as shown on the revised replacement tentative map RPL5, due to ample Mt. Israel Road traffic noise attenuation from free field sound rate of decay versus distance. The future roadway noise impact calculations can be found in Appendix A.

## 6.2 Interior

Due to the minimal future exterior traffic noise impacts at all seven residential pads proposed for development within the project subdivision, an exterior-to-interior noise analysis for any future residential building plans, demonstrating compliance with the 45 CNEL interior noise code regulation, will not be necessary and, therefore, is not required as a result of this acoustical study. Please refer to Figures 6 and 7, and Appendix A for further review.

# 7.0 CERTIFICATION

The findings and recommendations of this acoustical analysis report are a true and factual analysis of the potential environmental effects associated with the revised map for Oak Rose TM 5204 RPL5. This report was prepared by Michael Burrill and Douglas Eilar.

Michael Burrill, Sr. Acoustical Consultant

Douglas Eilar, Principal

# 8.0 REFERENCES


1. 2001 California Noise Insulation Standards, effective 11/01/02, based on 1997 Uniform Building Code, California Code of Regulations, Title 24.

2. 2001 California Building Code, Based on the 1997 Uniform Building Code, Appendix Chapter 12, Division II - Sound Transmission Control, Section 1208 - *Sound Transmission Control*.

3. California Department of Transportation, *SOUND 32* Traffic Noise Model.

4. County of San Diego, Department of Public Works, Nick Ortiz, Project Manager, (858) 495-5488.

5. County of San Diego, Department of Planning and Land Use, Resource Planning, John Bennett, Environmental Management Specialist, (858) 694-3729.

6. County of San Diego, Public Road Standards.

7. County of San Diego, Noise Element to the General Plan.

8. Olivenhain Municipal Water District, Letter Regarding Olivenhain Water Storage Project and Olivenhain Dam Construction.

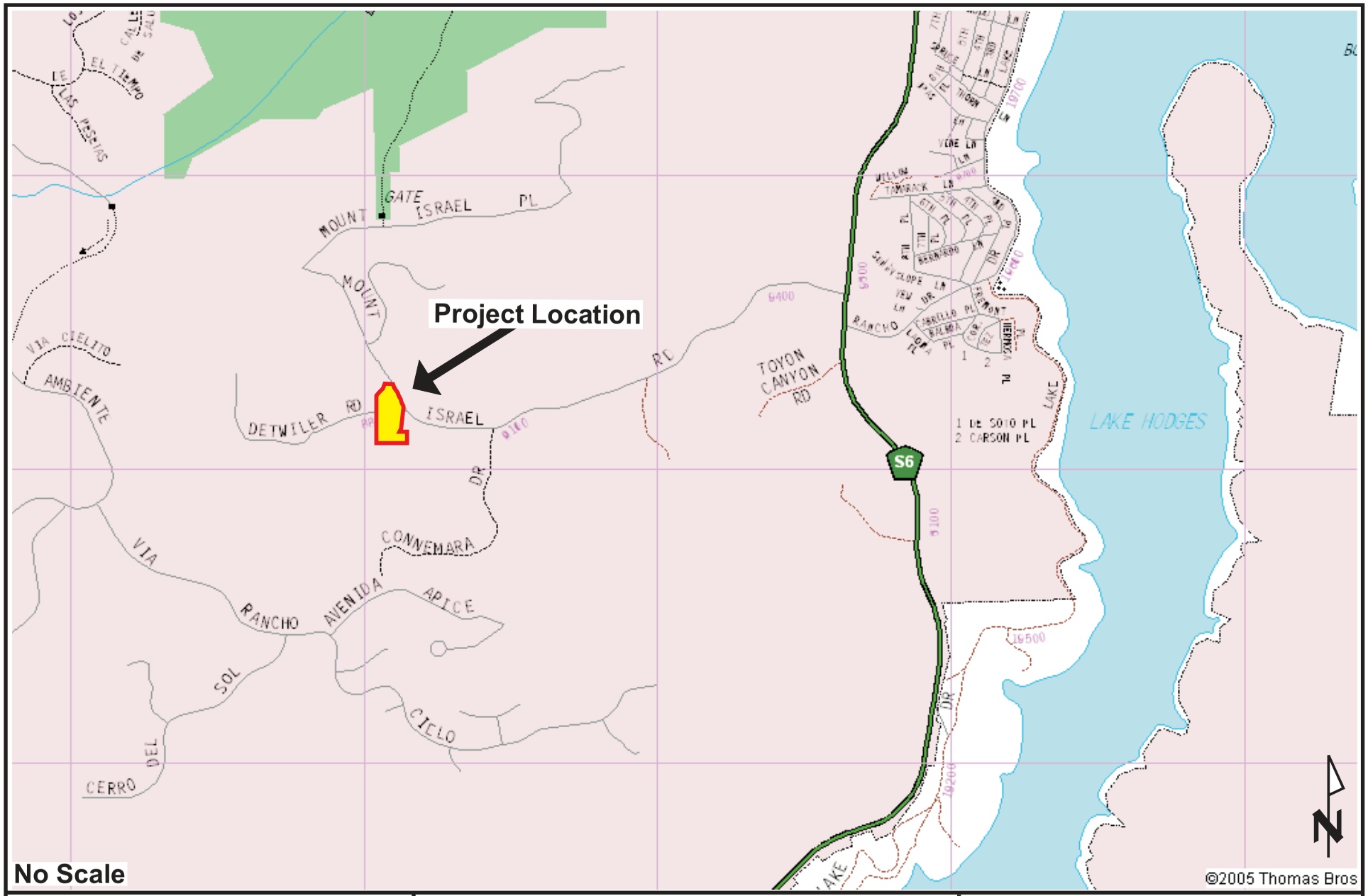
9. Olivenhain Water Storage Project, General Project Summary plus Maps.

10. SanDAG, Regional Transportation Internet Sites, for traffic counts and projections.

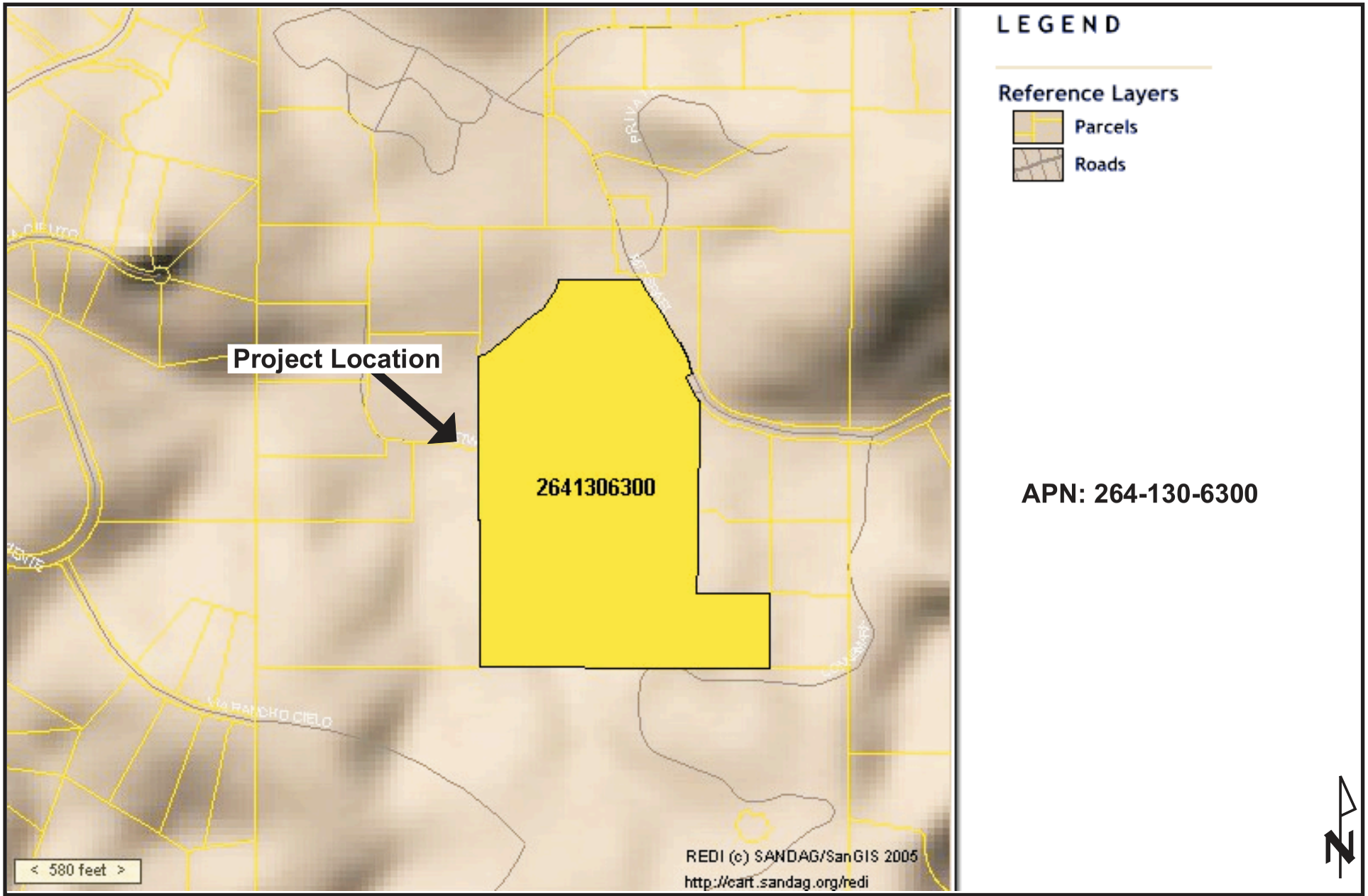
11. Traffic Study for Mt. Israel Road Subdivision, Darnell & Associates, Inc., November 3, 2000.

12. Wyle Laboratories, *Development of Ground Transportation Systems Noise Contours for the San Diego Region*, December, 1973.

# FIGURES

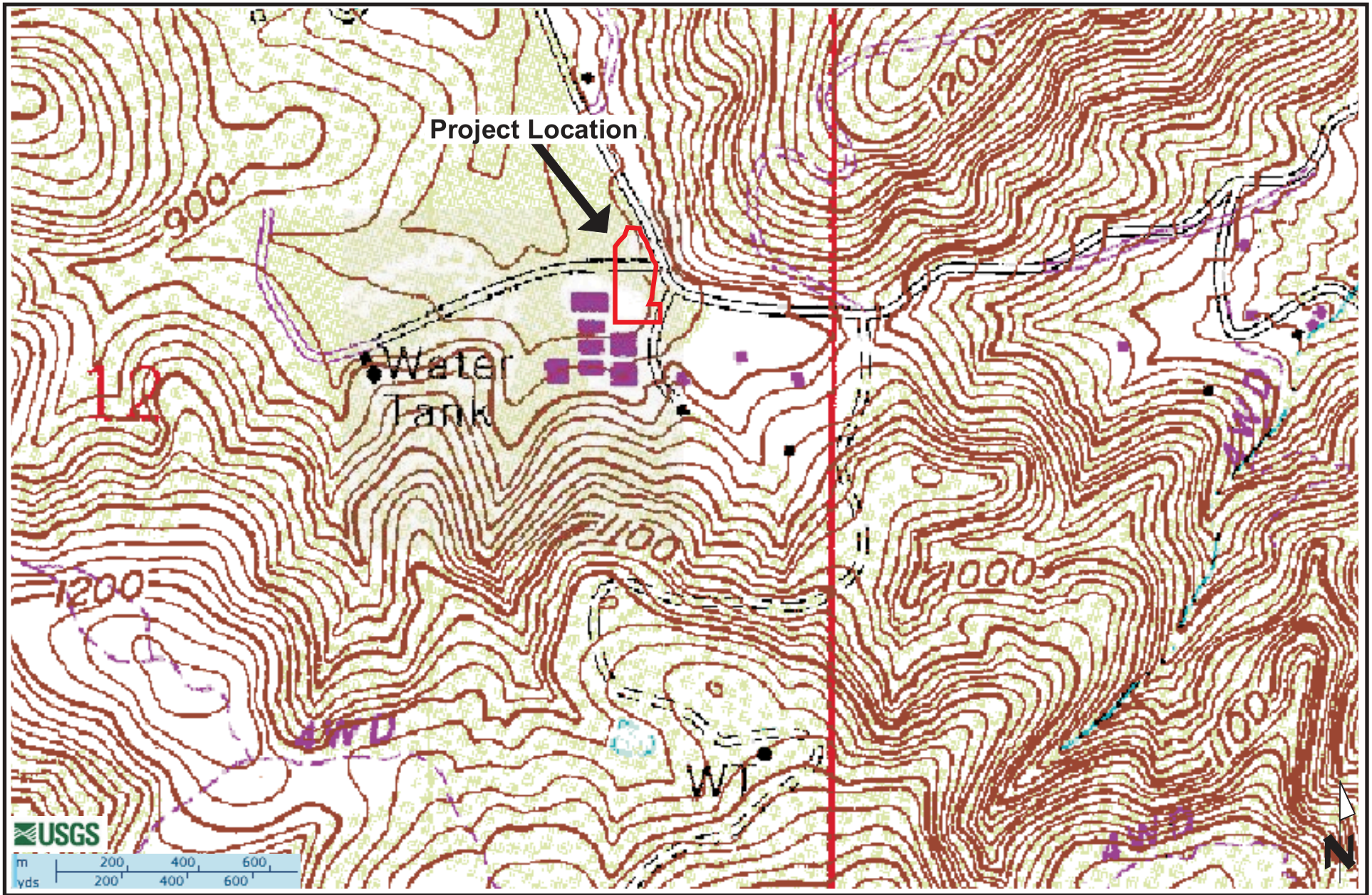



| | | |
|---|---|---|
| **Eilar Associates**<br>**539 Encinitas Boulevard, Suite 206**<br>**Encinitas, California 92024**<br>**760-753-1865** | **Thomas Guide Map**<br>**Job # A50630N1** | **Figure 1** |

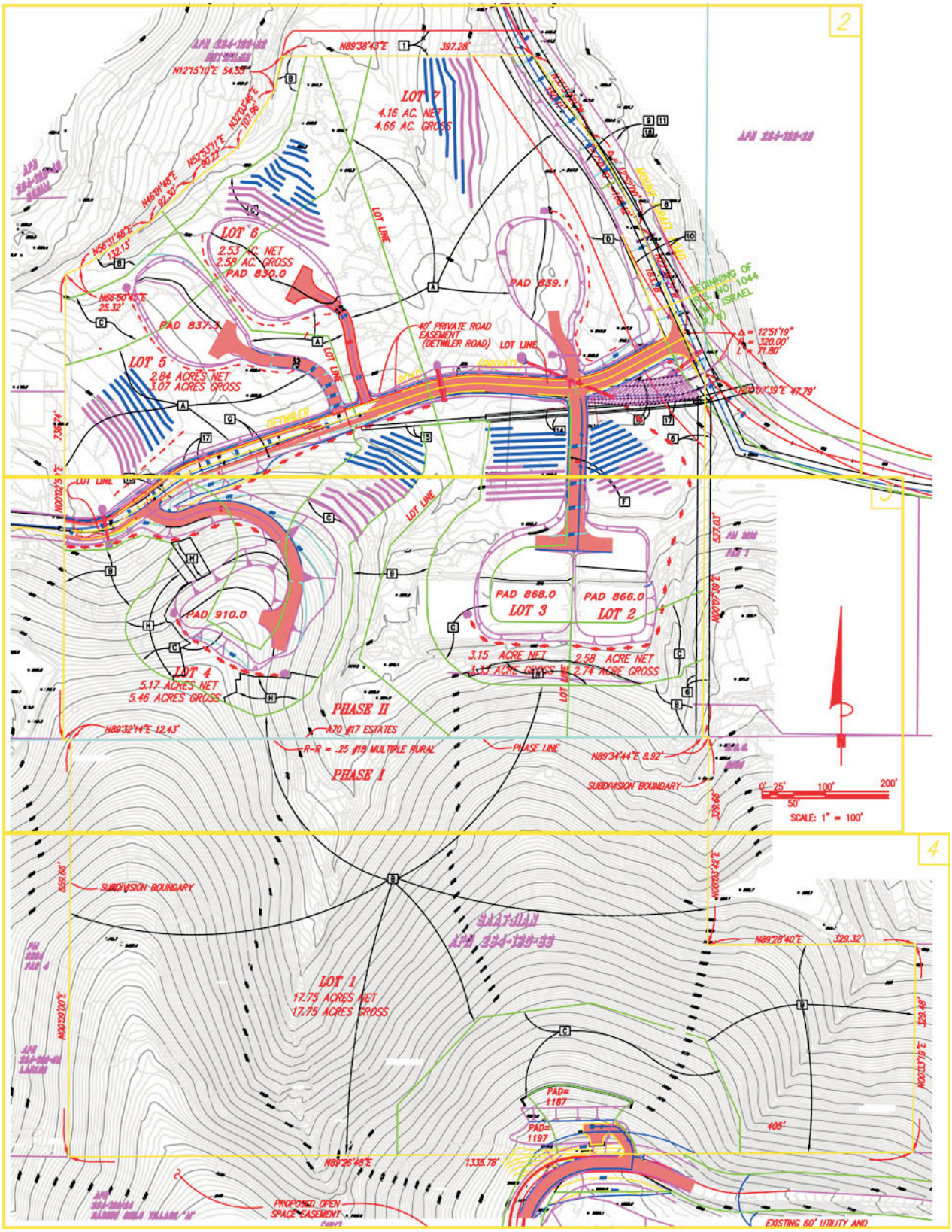



| | | |
|---|---|---|
| Eilar Associates<br>539 Encinitas Boulevard, Suite 206<br>Encinitas, California 92024<br>760-753-1865 | Assessor's Parcel Map<br>Job # A50630N1 | Figure 2 |


| | | |
|---|---|---|
| Eilar Associates<br>539 Encinitas Boulevard, Suite 206<br>Encinitas, California 92024<br>760-753-1865 | Satellite Aerial Photograph<br>Job # A50630N1 | Figure 3 |

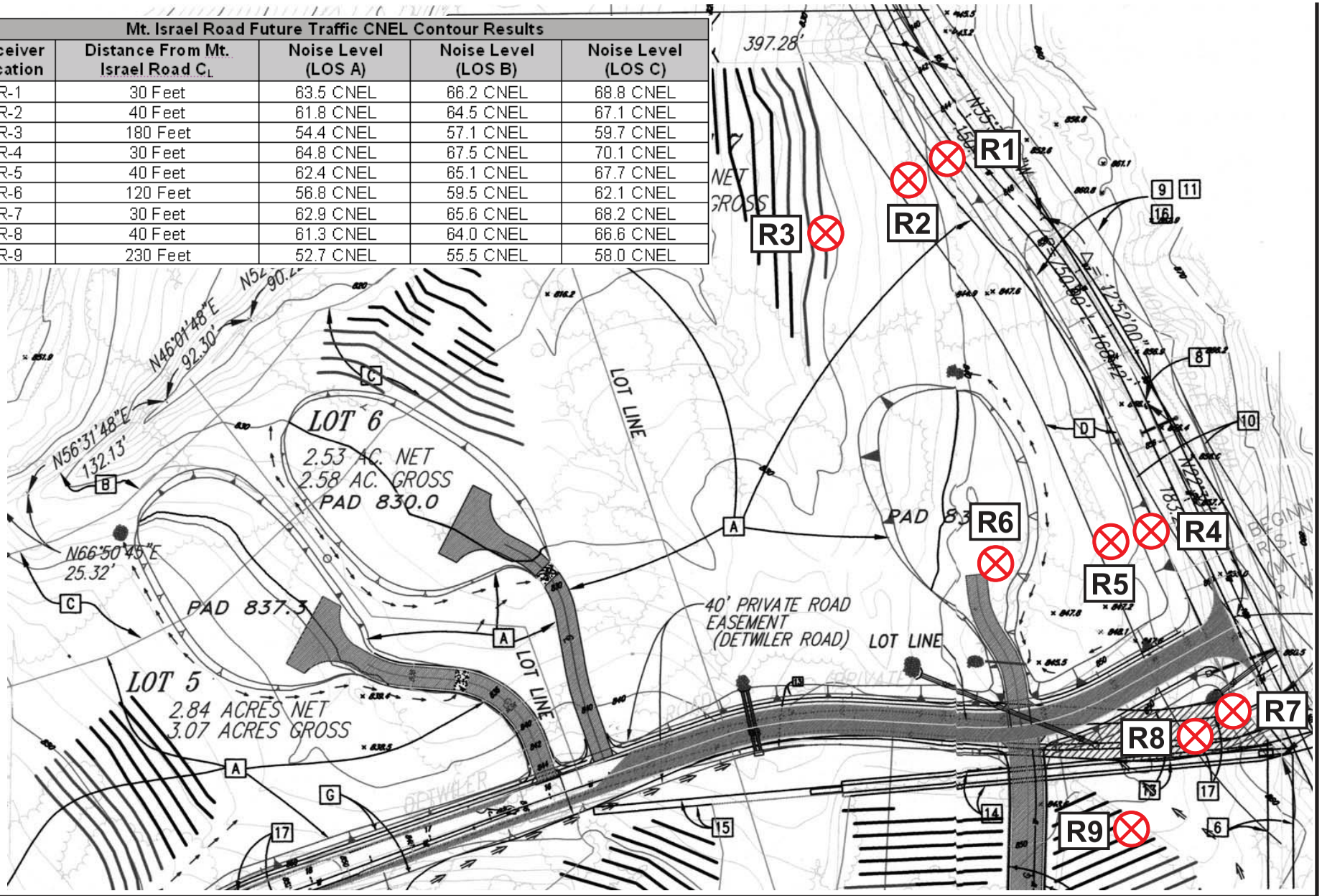



| | | |
|---|---|---|
| Eilar Associates<br>539 Encinitas Boulevard, Suite 206<br>Encinitas, California 92024<br>760-753-1865 | Topographic Map<br>Job # A50630N1 | Figure 4 |

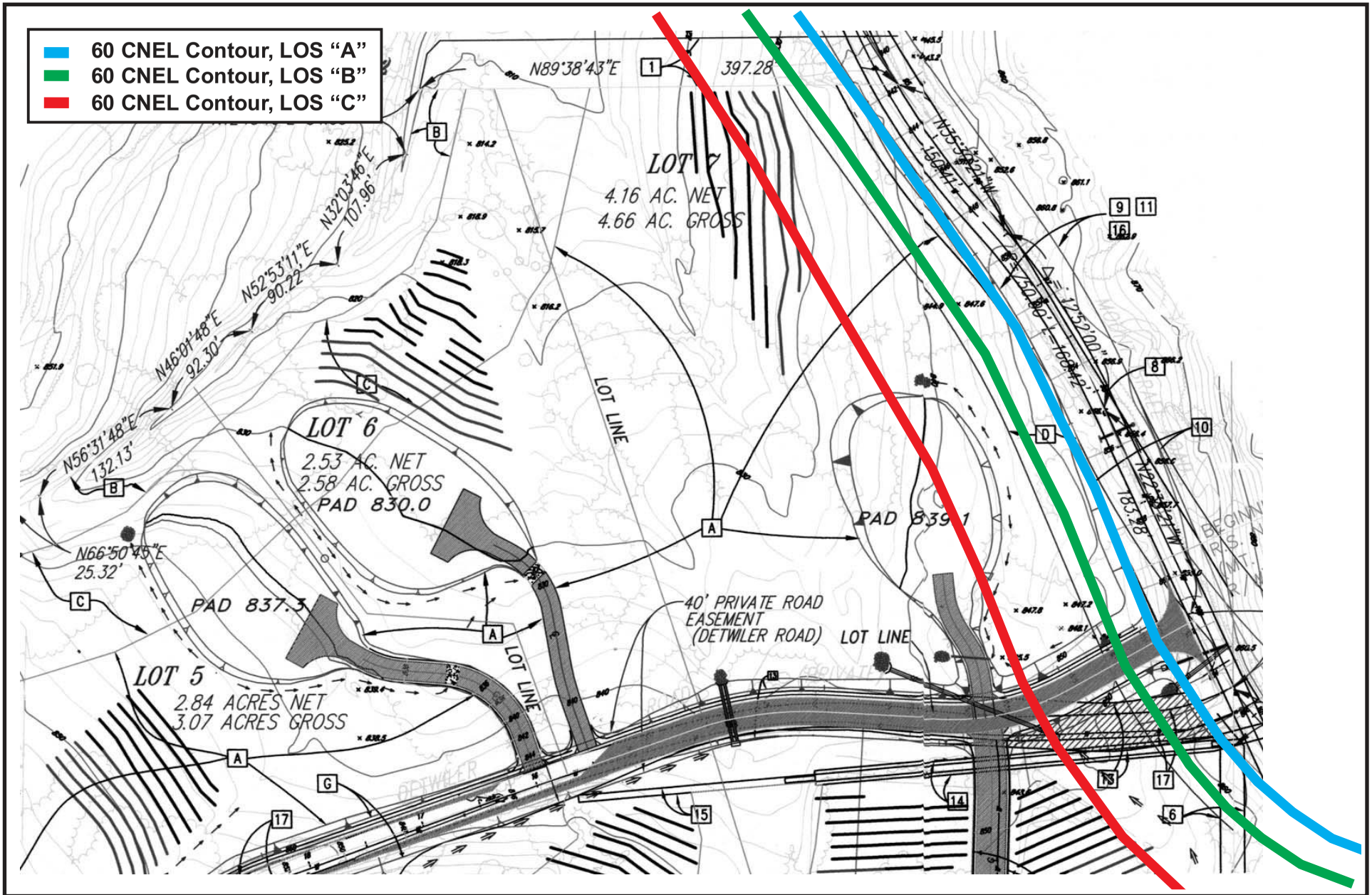



| | | |
|---|---|---|
| **Eilar Associates**<br>**539 Encinitas Boulevard, Suite 206**<br>**Encinitas, California 92024**<br>**760-753-1865** | **Replacement TM 5204 - RPL5**<br>**Job # A50630N1** | **Figure 5** |

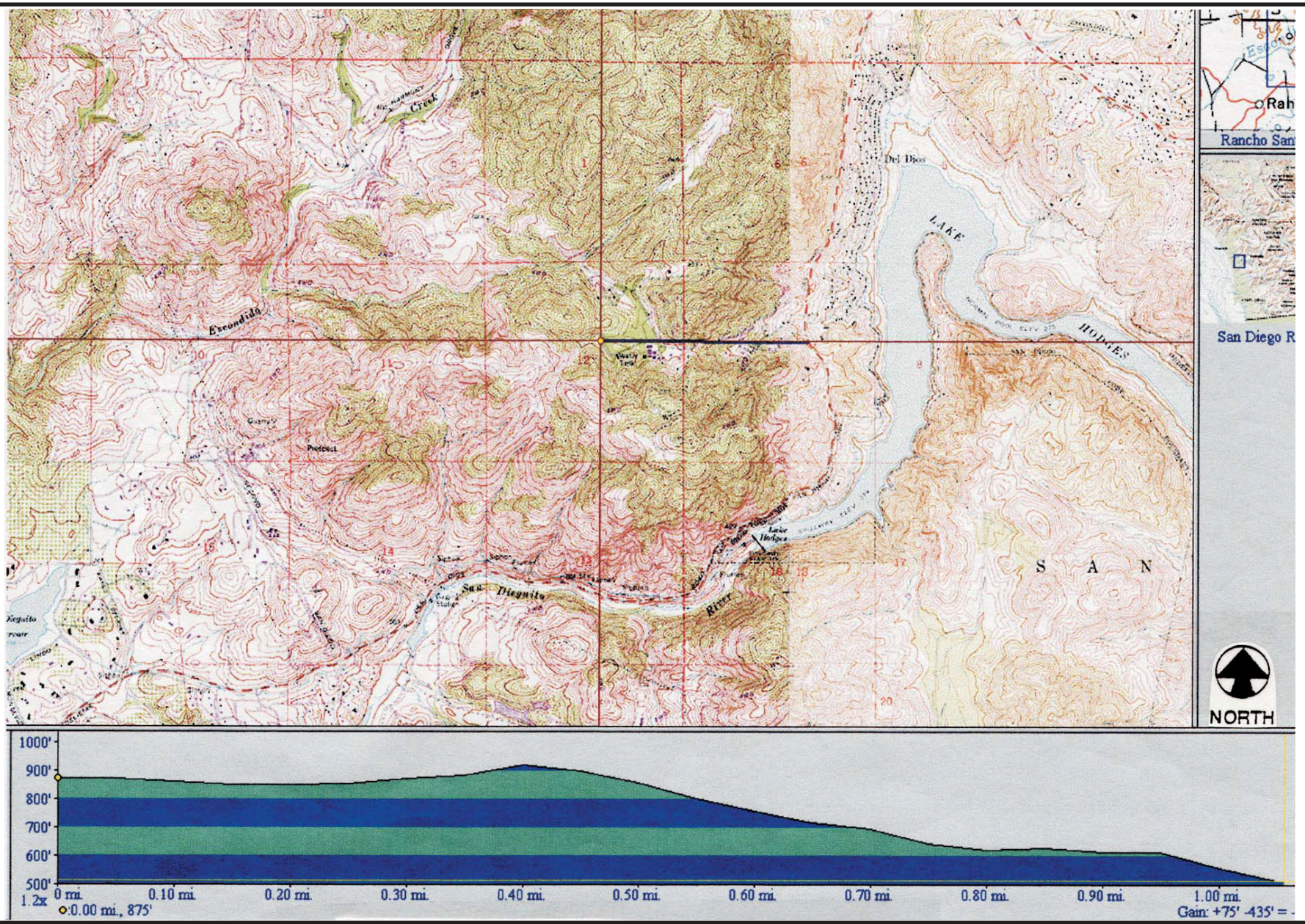
| Mt. Israel Road Future Traffic CNEL Contour Results | | | | |
|---|---|---|---|---|
| Receiver Location | Distance From Mt. Israel Road $C_L$ | Noise Level (LOS A) | Noise Level (LOS B) | Noise Level (LOS C) |
| R-1 | 30 Feet | 63.5 CNEL | 66.2 CNEL | 68.8 CNEL |
| R-2 | 40 Feet | 61.8 CNEL | 64.5 CNEL | 67.1 CNEL |
| R-3 | 180 Feet | 54.4 CNEL | 57.1 CNEL | 59.7 CNEL |
| R-4 | 30 Feet | 64.8 CNEL | 67.5 CNEL | 70.1 CNEL |
| R-5 | 40 Feet | 62.4 CNEL | 65.1 CNEL | 67.7 CNEL |
| R-6 | 120 Feet | 56.8 CNEL | 59.5 CNEL | 62.1 CNEL |
| R-7 | 30 Feet | 62.9 CNEL | 65.6 CNEL | 68.2 CNEL |
| R-8 | 40 Feet | 61.3 CNEL | 64.0 CNEL | 66.6 CNEL |
| R-9 | 230 Feet | 52.7 CNEL | 55.5 CNEL | 58.0 CNEL |



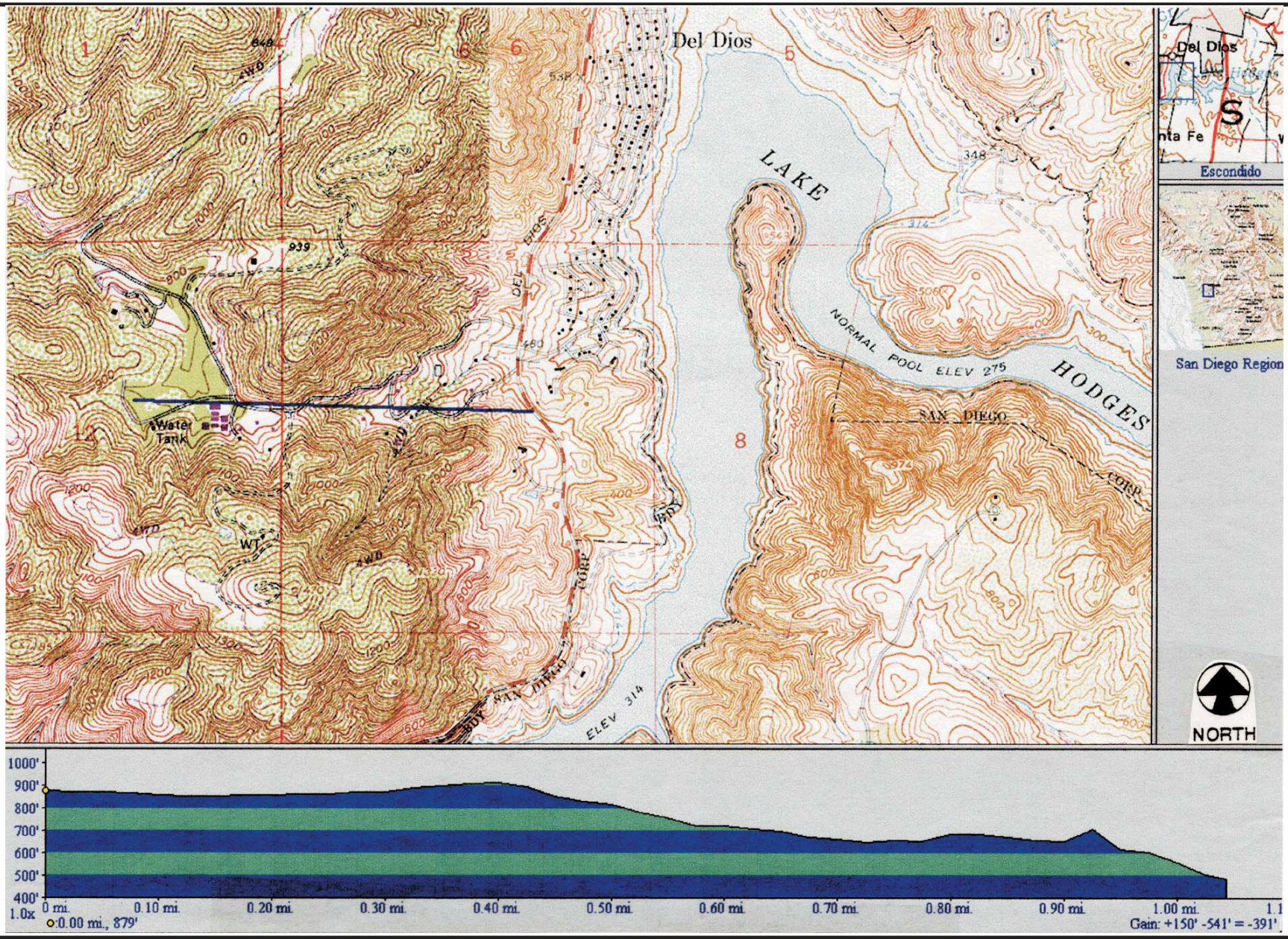

| | | |
|---|---|---|
| **Eilar Associates**<br>**539 Encinitas Boulevard, Suite 206**<br>**Encinitas, California 92024**<br>**760-753-1865** | **Replacement Tentative Map 5204 RPL5**<br>**Showing Receiver Locations for**<br>**Determining Future Traffic Contours**<br>**Job # A50630N1** | **Figure 6** |




| | | |
|---|---|---|
| Eilar Associates<br>539 Encinitas Boulevard, Suite 206<br>Encinitas, California 92024<br>760-753-1865 | Replacement Tentative Map 5204 RPL5<br>Showing Future Traffic Noise Contours<br>Job # A50630N1 | Figure 7 |




| | | |
|---|---|---|
| **Eilar Associates**<br>**539 Encinitas Boulevard, Suite 206**<br>**Encinitas, California 92024**<br>**760-753-1865** | **Project Site to Del Dios Highway**<br>**Topographic Cross-Section #1**<br>**Job # A50630N1** | **Figure 8** |




| | | |
|---|---|---|
| **Eilar Associates**<br>**539 Encinitas Boulevard, Suite 206**<br>**Encinitas, California 92024**<br>**760-753-1865** | **Project Site to Del Dios Highway**<br>**Topographic Cross-Section #2**<br>**Job # A50630N1** | **Figure 9** |

# APPENDIX A

# Sound32 - Roadway Noise Contour Calculations

# OAK ROSE TENTATIVE MAP 5204 - RPL5

## SOUND 32 - Roadway Noise Contour Calculations

| Traffic Information | | | | |
|---|---|---|---|---|
| ROADWAY NAME | SPEED LIMIT (minimum design speed) | FUTURE ADT (LOS A) | FUTURE ADT (LOS B) | FUTURE ADT (LOS C) |
| Mt. Israel Road | 45 MPH | 1,900 ADT | 4,100 ADT | 7,100 ADT |

| Future Traffic Conditions | | | | | |
|---|---|---|---|---|---|
| Roadway Name | Condition | Total % ADT | Cars (Hourly) | Medium Trucks (Hourly) | Heavy Trucks (Hourly) |
| Mount Israel Road (2 lanes) | Future (LOS A) | 100 | 97.0% | 2.0% | 1.0% |
| | | 1,900 | 106 | 2 | 1 |
| | Future (LOS B) | 100 | 97.0% | 2.0% | 1.0% |
| | | 4,100 | 230 | 4 | 2 |
| | Future (LOS C) | 100 | 97.0% | 2.0% | 1.0% |
| | | 7,100 | 399 | 8 | 4 |

**********

## Mt. Israel Road Future Traffic Noise Contour (Light Collector - LOS A)

* * SOUND32 (CALTRANS VERSION OF STAMINA2/OPTIMA) * *

INPUT DATA FILE : FUTLOW.TXT
BARRIER COST FILE : CALIF$.DTA
DATE : 11-02-2000

Untitled

==========

TRAFFIC DATA
---

| LANE NO. | AUTO VPH | AUTO MPH | MEDIUM TRKS VPH | MEDIUM TRKS MPH | HEAVY TRKS VPH | HEAVY TRKS MPH | DESCRIPTION |
|---|---|---|---|---|---|---|---|
| 1 | 53 | 45 | 1 | 45 | 1 | 45 | MOUNT ISRAEL ROAD-NORTHBOUND |
| 2 | 53 | 45 | 1 | 45 | 1 | 45 | MOUNT ISRAEL ROAD-SOUTHBOUND |

==========

LANE DATA
---

| LANE NO. | SEG. NO. | GRADE COR. | X | Y | Z | SEGMENT DESCRIPTION |
|---|---|---|---|---|---|---|
| 1 | 1 | NO | 324.0 | 582.0 | 845.0 | L1 P1 |
| | 2 | NO | 154.0 | 342.0 | 845.0 | L1 P2 |
| | 3 | NO | 29.0 | 62.0 | 855.0 | L1 P3 |
| | 4 | NO | -51.0 | -46.0 | 870.0 | L1 P4 |
| | 5 | NO | -156.0 | -106.0 | 870.0 | L1 P5 |
| | | | -366.0 | -156.0 | 870.0 | L1 P6 |
| 2 | 1 | NO | 330.0 | 580.0 | 845.0 | L2 P1 |
| | 2 | NO | 160.0 | 340.0 | 845.0 | L2 P2 |
| | 3 | NO | 35.0 | 60.0 | 855.0 | L2 P3 |
| | 4 | NO | -45.0 | -50.0 | 870.0 | L2 P4 |
| | 5 | NO | -150.0 | -110.0 | 870.0 | L2 P5 |
| | | | -360.0 | -160.0 | 870.0 | L2 P6 |

==========

RECEIVER DATA
---

| RECEIVER | CNEL |
|---|---|
| R-1 | 63.5 |
| R-2 | 61.8 |
| R-3 | 54.4 |
| R-4 | 64.0 |
| R-5 | 62.4 |
| R-6 | 56.8 |
| R-7 | 62.9 |
| R-8 | 61.3 |
| R-9 | 52.7 |

| REC. NO. | X | Y | Z | DNL | PEOPLE | ID |
|---|---|---|---|---|---|---|
| 1 | 235.0 | 400.0 | 852.0 | 67 | 500 | R-1 |
| 2 | 245.0 | 390.0 | 850.0 | 67 | 500 | R-2 |
| 3 | 360.0 | 310.0 | 837.0 | 67 | 500 | R-3 |
| 4 | 80.0 | 100.0 | 852.0 | 67 | 500 | R-4 |
| 5 | 90.0 | 95.0 | 852.0 | 67 | 500 | R-5 |
| 6 | 170.0 | 70.0 | 850.0 | 67 | 500 | R-6 |
| 7 | 30.0 | 0.0 | 867.0 | 67 | 500 | R-7 |
| 8 | 40.0 | -10.0 | 867.0 | 67 | 500 | R-8 |
| 9 | 190.0 | -130.0 | 855.0 | 67 | 500 | R-9 |

==========

DROP-OFF RATES
---
ALL LANE/RECEIVER PAIRS = 3.0 DBA
==========

K - CONSTANTS
---
ALL LANE RECEIVER/PAIRS = 2.0 DBA
==========

**********

## Mt. Israel Road Future Traffic Noise Contour (Light Collector - LOS B)

* * SOUND32 (CALTRANS VERSION OF STAMINA2/OPTIMA) * *

INPUT DATA FILE : FUTMED.TXT
BARRIER COST FILE : CALIF$.DTA
DATE : 11-02-2000

Untitled

==========

TRAFFIC DATA

| LANE NO. | AUTO VPH | AUTO MPH | MEDIUM TRKS VPH | MEDIUM TRKS MPH | HEAVY TRKS VPH | HEAVY TRKS MPH | DESCRIPTION |
|---|---|---|---|---|---|---|---|
| 1 | 115 | 45 | 2 | 45 | 1 | 45 | MOUNT ISRAEL ROAD - NORTHBOUND |
| 2 | 115 | 45 | 2 | 45 | 1 | 45 | MOUNT ISRAEL ROAD - SOUTHBOUND |

==========

LANE DATA

| LANE NO. | SEG. NO. | GRADE COR. | X | Y | Z | SEGMENT DESCRIPTION |
|---|---|---|---|---|---|---|
| 1 | 1 | NO | 324.0 | 582.0 | 845.0 | L1 P1 |
| | 2 | NO | 154.0 | 342.0 | 845.0 | L1 P2 |
| | 3 | NO | 29.0 | 62.0 | 855.0 | L1 P3 |
| | 4 | NO | -51.0 | -46.0 | 870.0 | L1 P4 |
| | 5 | NO | -156.0 | -106.0 | 870.0 | L1 P5 |
| | | | -366.0 | -156.0 | 870.0 | L1 P6 |
| 2 | 1 | NO | 330.0 | 580.0 | 845.0 | L2 P1 |
| | 2 | NO | 160.0 | 340.0 | 845.0 | L2 P2 |
| | 3 | NO | 35.0 | 60.0 | 855.0 | L2 P3 |
| | 4 | NO | -45.0 | -50.0 | 870.0 | L2 P4 |
| | 5 | NO | -150.0 | -110.0 | 870.0 | L2 P5 |
| | | | -360.0 | -160.0 | 870.0 | L2 P6 |

==========

RECEIVER DATA

| RECEIVER | CNEL |
|---|---|
| R-1 | 66.2 |
| R-2 | 64.5 |
| R-3 | 57.1 |
| R-4 | 66.7 |
| R-5 | 65.1 |
| R-6 | 59.5 |
| R-7 | 65.6 |
| R-8 | 64.0 |
| R-9 | 55.5 |

| REC. NO. | X | Y | Z | DNL | PEOPLE | ID |
|---|---|---|---|---|---|---|
| 1 | 235.0 | 400.0 | 852.0 | 67 | 500 | R-1 |
| 2 | 245.0 | 390.0 | 850.0 | 67 | 500 | R-2 |
| 3 | 360.0 | 310.0 | 837.0 | 67 | 500 | R-3 |
| 4 | 80.0 | 100.0 | 852.0 | 67 | 500 | R-4 |
| 5 | 90.0 | 95.0 | 852.0 | 67 | 500 | R-5 |
| 6 | 170.0 | 70.0 | 850.0 | 67 | 500 | R-6 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 | 30.0 | 0.0 | 867.0 | 67 | 500 | R-7 |
| 8 | 40.0 | -10.0 | 867.0 | 67 | 500 | R-8 |
| 9 | 190.0 | -130.0 | 855.0 | 67 | 500 | R-9 |

DROP-OFF RATES

ALL LANE/RECEIVER PAIRS = 3.0 DBA

K - CONSTANTS

ALL LANE RECEIVER/PAIRS = 2.0 DBA

## Mt. Israel Road Future Traffic Noise Contour (Light Collector - LOS C)

* * SOUND32 (CALTRANS VERSION OF STAMINA2/OPTIMA) * *

INPUT DATA FILE : FUTHIGH.TXT
BARRIER COST FILE : CALIF$.DTA
DATE : 11-02-2000

Untitled

TRAFFIC DATA

| LANE NO. | AUTO VPH | AUTO MPH | MEDIUM TRKS VPH | MEDIUM TRKS MPH | HEAVY TRKS VPH | HEAVY TRKS MPH | DESCRIPTION |
|---|---|---|---|---|---|---|---|
| 1 | 200 | 45 | 4 | 45 | 2 | 45 | MOUNT ISRAEL ROAD-NORTHBOUND |
| 2 | 200 | 45 | 4 | 45 | 2 | 45 | MOUNT ISRAEL ROAD-SOUTHBOUND |

LANE DATA

| LANE NO. | SEG. NO. | GRADE COR. | X | Y | Z | SEGMENT DESCRIPTION |
|---|---|---|---|---|---|---|
| 1 | 1 | NO | 324.0 | 582.0 | 845.0 | L1 P1 |
| | 2 | NO | 154.0 | 342.0 | 845.0 | L1 P2 |
| | 3 | NO | 29.0 | 62.0 | 855.0 | L1 P3 |
| | 4 | NO | -51.0 | -46.0 | 870.0 | L1 P4 |
| | 5 | NO | -156.0 | -106.0 | 870.0 | L1 P5 |
| | | | -366.0 | -156.0 | 870.0 | L1 P6 |
| 2 | 1 | NO | 330.0 | 580.0 | 845.0 | L2 P1 |
| | 2 | NO | 160.0 | 340.0 | 845.0 | L2 P2 |
| | 3 | NO | 35.0 | 60.0 | 855.0 | L2 P3 |
| | 4 | NO | -45.0 | -50.0 | 870.0 | L2 P4 |
| | 5 | NO | -150.0 | -110.0 | 870.0 | L2 P5 |
| | | | -360.0 | -160.0 | 870.0 | L2 P6 |

RECEIVER DATA

| RECEIVER | CNEL |
|---|---|
| R-1 | 68.8 |
| R-2 | 67.1 |
| R-3 | 59.7 |
| R-4 | 69.2 |
| R-5 | 67.7 |

| | |
|---|---|
| R-6 | 62.1 |
| R-7 | 68.2 |
| R-8 | 66.6 |
| R-9 | 58.0 |

REC.

| NO. | X | Y | Z | DNL | PEOPLE | ID |
|---|---|---|---|---|---|---|
| 1 | 235.0 | 400.0 | 852.0 | 67 | 500 | R-1 |
| 2 | 245.0 | 390.0 | 850.0 | 67 | 500 | R-2 |
| 3 | 360.0 | 310.0 | 837.0 | 67 | 500 | R-3 |
| 4 | 80.0 | 100.0 | 852.0 | 67 | 500 | R-4 |
| 5 | 90.0 | 95.0 | 852.0 | 67 | 500 | R-5 |
| 6 | 170.0 | 70.0 | 850.0 | 67 | 500 | R-6 |
| 7 | 30.0 | 0.0 | 867.0 | 67 | 500 | R-7 |
| 8 | 40.0 | -10.0 | 867.0 | 67 | 500 | R-8 |
| 9 | 190.0 | -130.0 | 855.0 | 67 | 500 | R-9 |

DROP-OFF RATES

ALL LANE/RECEIVER PAIRS = 3.0 DBA

K - CONSTANTS

ALL LANE RECEIVER/PAIRS = 2.0 DBA

# APPENDIX B

## Sensitive Species Observed and Potentially Occurring at the Oak Rose Site

## Table 1. Sensitive Plant Species Observed and Potentially Occurring at the Oak Rose Site

| Common Name<br>*Scientific Name*[1] | Status[2] | Preferred Habitat | Growth Habit<br>(Flowering Period[3]) | Potential to Occur On-Site |
|---|---|---|---|---|
| San Diego thornmint<br>*Acanthomintha ilicifolia* | Federal - FT<br>State - CE<br>CNPS - List 1B<br>County - Group A | Chaparral, coastal scrub, and valley and foothill grasslands. | annual herb<br>(Apr-Jun) | not expected |
| California adolphia<br>*Adolphia californica* | CNPS - List 2<br>County - Group B | Chaparral, coastal scrub, and valley and foothill grasslands. | deciduous shrub | not expected |
| San Diego bur-sage<br>*Ambrosia chenopodiifolia* | CNPS - List 2<br>County - Group B | Coastal scrub or maritime succulent scrub. | shrub | not expected |
| San Diego ambrosia<br>*Ambrosia pumila* | Federal - FS<br>CNPS - List 1B<br>County - Group A | Coastal scrub and valley and foothill grasslands. | perennial herb | not expected |
| Del Mar manzanita<br>*Arctostaphylos glandulosa* ssp. *crassifolia* | Federal - FE<br>CNPS - List 1B<br>County - Group A | Central maritime chaparral. | perennial shrub | not expected |
| San Diego sagewort<br>*Artemisia palmeri* | CNPS - List 2<br>County - Group B | Coastal scrub, chaparral, oak woodland, and riparian woodland. | deciduous shrub | observed |
| Encinitas baccharis<br>*Baccharis vanessae* | Federal - FT<br>State - CE<br>CNPS - List 1B<br>County - Group A | Chaparral. | perennial shrub | not expected |
| thread-leaved brodiaea<br>*Brodiaea filifolia* | Federal - FT<br>State - CE<br>CNPS - List 1B<br>County - Group A | Valley and foothill grasslands, and periphery of vernal pools. | bulb<br>(Mar-Jun) | not expected |
| Orcutt's brodiaea<br>*Brodiaea orcuttii* | Federal - FS<br>CNPS - List 1B<br>County - Group A | Periphery of vernal pools, valley and foothill grasslands, and chaparral. | bulb<br>(Apr-Jul) | not expected |
| wart-stemmed ceanothus<br>*Ceanothus verrucosus* | Federal - FS<br>CNPS - List 2<br>County - Group B | Southern mixed chaparral. | perennial shrub | observed |
| summer holly<br>*Comarostaphylis diversifolia* ssp. *diversifolia* | Federal - FS<br>CNPS - List 1B<br>County - Group A | Chaparral. | perennial shrub | observed |
| western dichondra<br>*Dichondra occidentalis* | Federal - FS<br>CNPS - List 4 | Southern mixed chaparral and coastal sage scrub. | perennial herb | low |

## Table 2. Sensitive Wildlife Species Observed and Potentially Occurring at the Oak Rose Site

| Common Name<br>*Scientific Name* | Status[1] | Preferred Habitat | Potential to Occur On-Site |
|---|---|---|---|
| **Invertebrates** | | | |
| Quino checkerspot butterfly<br>*Euphydryas editha quino* | Federal - FE | Restricted to open grassland and sunny openings within shrubland habits with larval host plants: *Plantago erecta*, *P. ovata*, *Castilleja exserta*, *Collinsia* sp., and *Antirrhinum coulterianum.* | not expected |
| **Reptiles** | | | |
| southwestern pond turtle<br>*Clemmys marmorata pallida* | Federal - FS<br>State - CS | Permanent or nearly permanent bodies of water. | not expected |
| San Diego horned lizard<br>*Phrynosoma coronatum blainvillei* | Federal - FS<br>State - CS | Coastal sage scrub and chaparral. | low to moderate |
| Coronado skink<br>*Eumeces skiltonianus interparietalis* | Federal - FS<br>State - CS | Grasslands and chaparral. | low to moderate |
| orange-throated whiptail<br>*Cnemidophorus hyperythrus* | Federal - FS<br>State - CS | Coastal scrub and chaparral. | low to moderate |
| **Birds** | | | |
| turkey vulture<br>*Cathartes aura* | AS- De | Open country, woodlands, and agricultural lands. | observed |
| Cooper's hawk<br>*Accipiter cooperi* | State - CS<br>AS - BL, De | Woodlands, parks, and residential areas. | expected |
| red-shouldered hawk<br>*Buteo lineatus elegans* | AS - BL | Riparian and oak woodlands. | expected |
| coastal cactus wren<br>*Campylorhynchus brunneicapillus couesi* | State - CS | Coastal sage scrub. | not expected |
| coastal California gnatcatcher<br>*Polioptila californica californica* | Federal - FT<br>State - CS | Coastal sage scrub. | not expected |
| least Bell's vireo<br>*Vireo bellii pusillus* | Federal - FE<br>State - FE | Low riparian growth. | not expected |
| yellow breasted chat<br>*Icteria virens* | State - CS | Summer resident of riparian thickets. | not expected |
| **Mammals** | | | |
| mountain lion<br>*Felis concolor* | State - SP | Brushy or forested regions. | low |

[1] Status - Please see Appendix 4 for the Plant and Animal Sensitivity Guidelines.